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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,891	09/05/2003	Masato Kawasaki	242417US3	6643
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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER SOOHOO, TONY GLEN	
			ART UNIT 1723	PAPER NUMBER

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/654,891

Applicant(s)

KAWASAKI, MASATO

Examiner

Tony G. Soohoo

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,8 and 9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3-5,8 and 9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. A translation of said papers has not been made of record .

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberger 6719921 filed September 27, 2001, in view of Cadeo et al 4964732 and Troope 3948490 and Wong et al 6267142 and Wong 6247903.
4. The Steinberger 6719921 (newly cited) reference discloses recirculation systems 41, 42, 43, with a respective recirculation pump 4, 5, 6; drawports 18, 19, 20; a discharge port at the end of 14 into 30; pressure regulation means 15, 16, 17 and flow meters 8, 9, 10 arranged down stream of the pressure regulators, a programmable logic controller (PLC) see lines 31 and dashed lines to the valves 34 to control the flow delivery rates from the sources A, B, C to provide a mixture.

The Steinberger reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of

- 1) a feed pump on reach respective line located such that the pumps are upon lines 26, 27, 28 so as to be arranged to have the isolation valve 34, 35, 36 to be between the draw ports 18 19 20, and the respective feed pump
- 2) and further having the PLC controlling the each respective pump on its respective line using measurements from the flow meters 151, 172a, 172b in contrast to the use control of the valves 34, 35, 36 to regulate the flow of source chemical materials in the proper ratio
- 3) one of the isolation valves 34, 35, 36 having an atmospheric vent to provide an alternate manner to vent or drain of material from the system
- 4) the particular further construction of the details of the pressure regulator including *dampeners and pressurization valves* to regulate fluctuations of the flow. Steinberger broadly discusses a pressure regulator means element.

With regards to the exceptions of 1) and 2) above, the reference to Cadeo et al 4964732 (Cadeo) teaches that in a each fluid mixing supply line, one may provide the combination of a flow meter 10, which is used to control a down stream flow pump 6 by the use of a logic controller 9 so as to provide precise control of flow amounts for mixing and the provision of a recirculation line 12 so as to provide additional processing of the fluids. In view of the teaching of the Cadeo, it is deemed that it would have been also obvious to one of ordinary skill in the art to additionally provide for respective pumps

and modify the Steinberger device with of a respective pumps which are responsive to a controller such as a PLC controller connected to the flow meters (8, 9, 10 of Steinberger) such that it controls the rate of pumping located each feed line so as to provide a more precise proportional flow to the mixture.

With regards to the exception enumerated as 3) above, the reference to Troope 3948490 discloses that a supply line 90 or 96 may be fed to an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation from the supply line 20 and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure. In view of the teaching of the Troope reference it is deemed that it would have been obvious to one of ordinary skill in the art to further provide the feed to an intermediate an mixing tank having level sensors and an air vent which provides an function of isolation a ready supply of source fluid to a supply line the Steinberger reference and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure.

With regards to the exception enumerated as 4) above, The Wong et al (Wong et al '142) reference discloses as best shown in figure 2A through figure 4, drawports 148a' 148b', 144, 139, a discharge port 154a, 154b, pressure regulator 510 or (170, 171, 306) to dampen pressure fluctuations, column 7, lines 44-53, 150 including a *va*/ve 306 and a pressure regulator 170 working in combination to regulate and dampen the flow stream. Additionally, the reference to Wong 6247903 (Wong '903) teaches that one many better regulate the flow of flow and pressure of a fluid by utilizing the combination of a pressure regulator 124 and a *pulse dampener* 122 in the line so as to reduce

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fluctuations. Furthermore, in view of the teaching of both the Wong references, Wong et al '142 and Wong '903, it is deemed that it would have been also obvious to one of ordinary skill in the art to provide for the pressure regulator device of 15, 16, 17 with the use of pressure valves, and pressure dampeners so as to better regulate flow fluctuations in the feed lines.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 3-5, and 8-9 and are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S.

Patent No. 6,767,124 to Shikami et al (assignee to m FSI Ltd.) in view of Wong et al 6267142 and Cucci et al 5672832 and Troope 3948490 and Steinberger 6719921.

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The Shikami et al 6767124 (Shikami '124, common assignee, common inventor) patented claims discloses a device including in claim 1, drawports, discharge port, feed pumps, dampers and pressurization valves and a PLC controller responsive to pressure sensors, and a clean/flush line, (claim 4). The Shikami '124 reference discloses all of the recited subject matter as defined within the scope of the application claims with the exception of the provision of a flow meter in connection with the PLC controller in the downstream side of the dampeners and regulator, and having an isolator with level sensors and air vent; and with the exception of each source having a respective recirculation system with a recirculation pump (not claimed but disclosed in the Shikami et al reference).

The reference to Wong 6267142 (Wong '142) teaches that a flow meter 151 may be placed down stream of the pressure regulator 150 as a means to monitor that the flow that is provided to a mixing point for a proportionate mixture, column 4, lines 54-57.

Additionally, the reference to Cucci et al 5672832 (Cicci '832) discloses that a flow meter may be constructed from pressure sensors.

Troope 3948490 discloses that a supply line 90 or 96 may be fed to an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation from the supply line 20 and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure.

Steinberger shows to a person having ordinary skill in the art that one may provide a recirculation pump and recirculation line to the each source as a means prior

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to mixture to provide pressure and also to prevent settling prior to combining the source fluids into a mixture.

Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the arrangement of the pressure (flow) sensors 8 of the Shikami '124 to a flow meter measuring device utilizing pressure sensor and to further locate the flow/pressure sensors to a location downstream of the pressure regulators as discussed by the Wong '124 reference so that the measurements of flow from the flow meter is more stabilized thereby providing a more precise measurement and control of the feed pump; and further provide the feed to an intermediate an mixing tank having level sensors 102, 112, 104, 114 and an air vent 68 which provides an function of isolation a ready supply of source fluid to a supply line the Shikami (et al) reference and further provides a mixing of the supply fluid and venting of unwanted gasses or pressure; and further provide for a recirculation line with a respective pump as taught by Steinberger et al so as to provide addition agitation of the fluid source to homogenize the source prior to dispensing to a mixture.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3-5, 8-9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following disclose feed systems: Liefermane t al 3830473,


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Obeng et al 6048256, Henderson et al 6722779, Snyder et al 2002/0085447, Hoyle et al 3754734, Grant 6947126, Kim et al 6287192 and Custer et al 6102782.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM, Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Tony G Soohoo  
Primary Examiner  
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